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THE SOUTH AMERICAN WEEVIL GENUS *RHYEPHENES* (COLEOPTERA: CURCULIONIDAE; CRYPTORHYNCHINAE)

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Abstract.—The genus *Rhyephenes* Schoenherr, endemic to the Central Chilean and Subantarctic biogeographic provinces of southern South America, is easily recognized by its black body with shape resembling a spider. This genus includes seven species: *Rhyephenes clathratus* R. Philippi, *R. gayi* (Guérin), *R. goureaui* (Gay & Solier), *R. humeralis* (Guérin), *R. lateralis* (Guérin), *R. maillei* (Gay & Solier), and *R. squamiger* F. Philippi (reinstated herein from synonymy with *R. gayi*). A key, redescriptions, habitus photographs, and illustrations of the species are provided, and their geographical distribution is mapped. A cladistic analysis using 21 characters from external morphology and male and female genitalia produced four cladograms (CI = 0.55, RI = 0.51, length 43 steps), which after successive weighting were reduced to one cladogram (CI = 0.82, RI = 0.85, length 111 steps). In the cladogram, the following phylogenetic sequence results: (*R. squamiger*, (*R. lateralis*, ((*R. clathratus*, *R. goureaui*), (*R. gayi*, (*R. humeralis*, *R. maillei*)))). Biogeographic patterns exhibited by these species indicate a sequence from central Chile to southern Chile and Argentina.

The weevil genus *Rhyephenes* (Curculionidae: Cryptorhynchinae) was described by Schoenherr (1837). This taxon of uncertain placement is one of the most characteristic weevil genera from central Chile, with two species extending also to southern Chile and Argentina. They are popularly known in Spanish as “arañitas” (little spiders), because of their typical habitus (see Figs. 1–14). Sixteen species-group names proposed by several authors (Guérin, 1830; Erichson, 1834; Gyllenhal, 1837; Gay & Solier, 1839; Blanchard, 1853; R. Philippi, 1859; F. Philippi, 1899; Fiedler, 1942) were assigned to *Rhyephenes*. This nomenclatural proliferation is mainly due to the intraspecific variability of the species of *Rhyephenes*, which led authors to describe as valid species mere geographical variants. Recent synonymies by Kuschel (1993) and Morrone (1994) reduced the number of species to six. I suspected, however, that the synonymy of *R. squamiger* F. Philippi and *R. gayi* (Guérin) by Kuschel (1993) was incorrect. A cladistic analysis of its species can help elucidate which are the valid species of *Rhyephenes*.

MATERIAL AND METHODS

The specimens examined in this study are from the following collections: AMNH, American Museum of Natural History, New York, USA (Lee Herman); BMNH, The Natural History Museum, London, Great Britain (Christopher Lyal); CWOB, Charles W. O'Brien private collection, Tallahassee, USA (Charles O'Brien); IADIZA, Instituto de Investigaciones de las Zonas Aridas, Mendoza, Argentina (Sergio Roig-Juñent); IPCN, Instituto Patagónico de Ciencias Naturales, San Martín de los Andes, Argentina (Mario Gentili); MACN, Museo Argentino de Ciencias Naturales Bernardino Rivadavia, Buenos Aires, Argentina (Axel Bachmann); MHNS, Museo Na-

Table 1. Data matrix and list of characters used in the cladistic analysis of *Rhyephenes*.
0 = plesiomorphic; 1, 2, 3 = apomorphic.

outgroup	00000	00000	00000	00000	0
<i>R. clathratus</i>	11001	11001	21100	00010	0
<i>R. gayi</i>	10010	11000	21111	11100	1
<i>R. goureaui</i>	00001	11001	01101	01110	1
<i>R. humeralis</i>	21110	11111	21101	12101	1
<i>R. lateralis</i>	22000	10001	31000	01001	1
<i>R. maillei</i>	21010	11111	01000	11100	1
<i>R. squamiger</i>	00010	00101	10000	00100	0

1. Tuberules on male rostrum: (0) absent; (1) present, at sides; (2) present, on dorsum and sides.
2. Punctures on female rostrum: (0) broad, abundant; (1) fine, less abundant; (2) fine, sparse.
3. Prothorax: (0) slightly globose; (1) strongly globose, protuberant.
4. Relative width of the prothorax: (0) as wide as elytra; (1) wider than elytra.
5. Prothoracic anterior impression: (0) absent; (1) present.
6. Prothoracic punctures: (0) small, shallow; (1) large, deep.
7. Elytral basal area: (0) slightly impressed; (1) strongly impressed.
8. Elytral tubercles: (0) rounded; (1) subconical.
9. Elytral tubercles on intervals: (0) small, similar to those on striae; (1) large, more developed than those on striae.
10. Elytral tubercles on intervals and striae: (0) clearly separated; (1) partially fused.
11. Elytral humeral stripes of white scales: (0) absent; (1) two short stripes; (2) three short stripes; (3) three stripes, two short and one longer.
12. Body vestiture: (0) clothed with scales; (1) lacking scales.
13. Aedeagus in lateral view: (0) slender; (1) robust.
14. Ostiolar sclerites of aedeagus: (0) rounded; (1) acute.
15. Parameres: (0) long, narrow; (1) short, broad.
16. Female sternum 8 plate: (0) as long as wide; (1) longer than wide.
17. Relative length of female sternum 8 plate: (0) < 0.40× length of manubrium; (1) 0.41–0.61× length of manubrium; (2) > 0.61× length of manubrium.
18. Setae on sides of female sternum 8 plate: (0) absent; (1) present.
19. Arms of female sternum 8 plate: (0) narrow; (1) broad.
20. Spermathecal nodulus: (0) developed; (1) not developed.
21. Spermathecal ramus: (0) developed; (1) not developed.

cional de Historia Natural, Santiago, Chile (Mario Elgueta); and MLP, Museo de La Plata, La Plata, Argentina (Juan Schnack).

Drawings were made with a camera lucida attached to a stereoscopic microscope. Full data of type specimens are cited enclosing information from each label with square brackets with each line separated by a slash.

Characters were derived from the external morphology, and male and female genitalia. The classification of the subfamily Cryptorhynchinae is in some disarray (Lyal, 1993) and there are no keys available to the South American genera (O'Brien, 1984). Furthermore, the distinctness of *Rhyephenes* makes it presently not possible to identify its sister group, so an unrooted ingroup analysis was performed, and the root of the cladogram was determined a posteriori using an hypothetical outgroup, following

the procedure described by Nixon and Carpenter (1993). In order to construct this outgroup, several South American genera were examined and the revision of the New Zealand Cryptorhynchinae (Lyal, 1993) was consulted. Table 1 contains the data matrix and the list of characters analyzed (all multistate characters were treated as additive). Analysis was carried out with Hennig86 1.5 (Farris, 1988), applying the implicit enumeration option and the successive weighting procedure. CI and RI were calculated excluding autapomorphies. CLADOS 1.1 (Nixon, 1992) was employed for examination of character distributions and for rooting the cladogram after the unrooted analysis.

RHYEPHENES SCHOENHERR, 1837

Rhyephenes Schoenherr, 1837:312 (type species *R. incas* Gyllenhal [=*R. humeralis* (Guérin)], by original designation); Gay and Solier, 1839:24 (key); F. Philippi, 1899:3 (revision); Fiedler, 1942:274 (key).

Physothorus Gay and Solier, 1839:22 (type species *P. maillei* Gay and Solier, by original designation); Solier, 1839:L (=*Rhyephenes*).

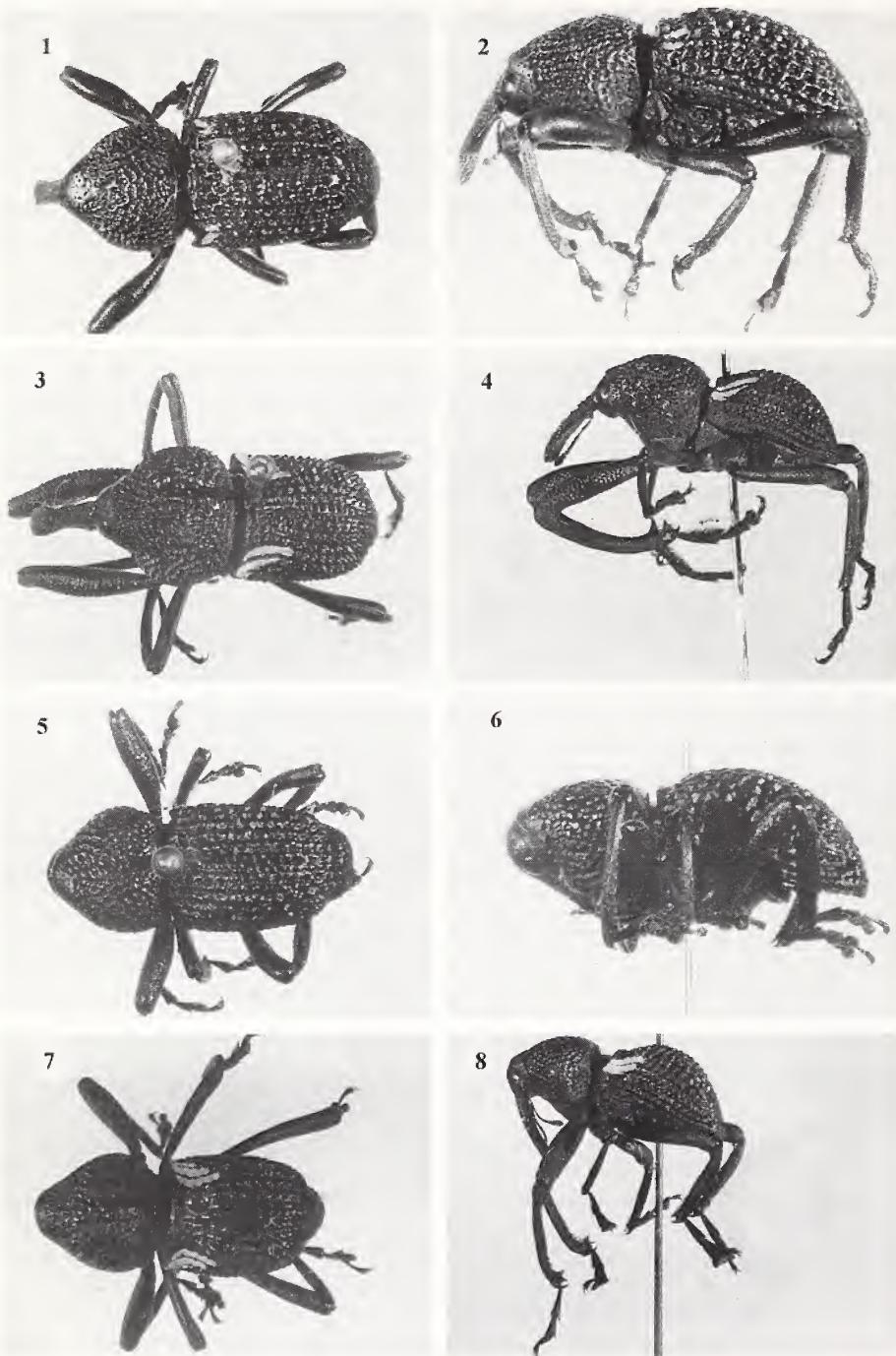
Rhyephenes is easily recognized by its black color and habitus, which resembles a spider (Figs. 1–14).

Biology: Adult *Rhyephenes* are usually seen on woody plants, females oviposit under bark of the host plants, and larvae are endophytic, excavating galleries and feeding on live wood (Angulo, 1970; Elgueta, 1993). Table 2 includes a list of the known plants where species of *Rhyephenes* have been collected, from personal observations in the field, specimen labels, and relevant literature (Fiedler, 1942; Havrylenko & Winterhalter, 1949; Solervicens & Elgueta, 1989; Barriga et al., 1993; Elgueta, 1993; Morrone & Roig-Juñent, 1995). These plants cannot be certainly assumed to be host plants.

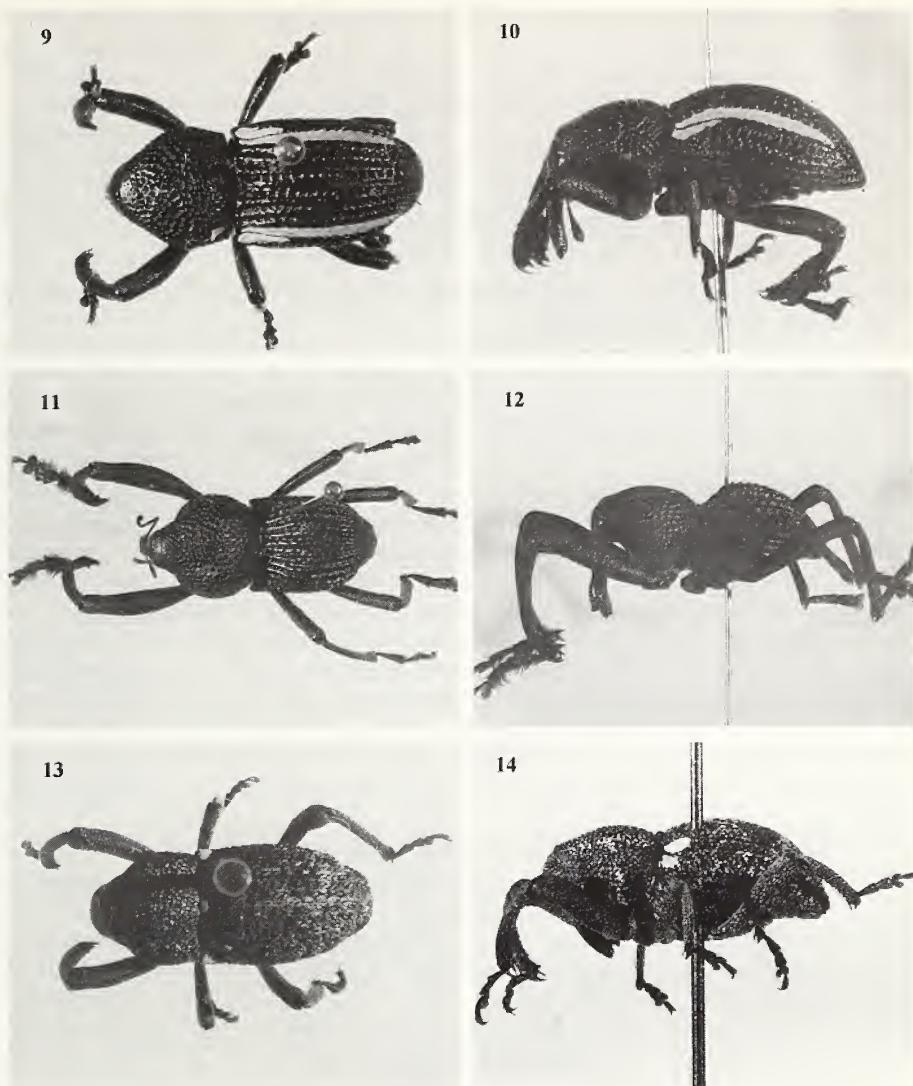
Distribution: The species of *Rhyephenes* occur in the Central Chilean and Subantarctic provinces of the Andean subregion of southern South America (Figs. 50–53).

KEY TO SPECIES OF RHYEPHENES

1. Elytra with 2–3 humeral stripes of white scales (Figs. 1, 3, 7, 9, 13) 2
Elytra lacking humeral stripes (Figs. 5, 11) 6
2. Prothorax strongly globose, protuberant (Fig. 7); elytra with tubercles on intervals more developed than those on striae *R. humeralis* (Figs. 7–8)
Prothorax slightly globose; elytra with tubercles on intervals similar to those on striae 3
3. Elytra with basal area slightly impressed; aedeagus slender in lateral view (Figs. 24, 28) 4
Elytra with basal area strongly impressed; aedeagus robust in lateral view (Figs. 16, 18) 5
4. Body clothed with scales (Fig. 13); male rostrum lacking tubercles; female rostrum with broad, abundant punctures; prothorax wider than elytra, and with small, shallow punctures; elytra with subconical tubercles and two short humeral stripes (Fig. 13) *R. squamiger* (Figs. 13–14)
Body lacking scales (Fig. 9); male rostrum with tubercles; female rostrum with fine, sparse punctures; prothorax as wide as elytra, and with large, deep punctures; elytra



Figs. 1-8. *Rhyephenes* spp., habitus. 1, 3, 5, 7, dorsal view; 2, 4, 6, 8, lateral view. 1, 2, *R. clathratus*; 3, 4, *R. gayi*; 5, 6, *R. goureaui*; 7, 8, *R. humeralis*.



Figs. 9–14. *Rhyephenes* spp., habitus. 9, 11, 13, dorsal view; 10, 12, 14, lateral view. 9, 10, *R. lateralis*; 11, 12, *R. maillei*; 13, 14, *R. squamiger*.

- with rounded tubercles and two short and one longer humeral stripes (Fig. 9) *R. lateralis* (Figs. 9–10)
- 5. Prothorax as wide as elytra and with anterior impression; elytra with tubercles partially fused; female rostrum with fine, less abundant punctures *R. clathratus* (Figs. 1–2)
- Prothorax wider than elytra and lacking anterior impression; elytra with tubercles clearly separated; female rostrum with broad, abundant punctures *R. gayi* (Figs. 3–4)
- 6. Prothorax wider than elytra and lacking anterior impression; elytra with basal area

- strongly impressed, and subconical tubercles; aedeagus slender in lateral view; male rostrum with tubercles *R. maillei* (Figs. 11-12)
Prothorax as wide as elytra and with anterior impression; elytra with basal area slightly impressed, and rounded tubercles; aedeagus robust in lateral view; male rostrum lacking tubercles *R. goureaui* (Figs. 5-6)

Rhyephenes clathratus R. Philippi, 1859
(Figs. 1, 2, 15, 16, 29, 36, 43, 50)

Rhyephenes clathratus R. Philippi, 1859:666; Fairmaire, 1860:251 (=*R. goureaui*); F. Philippi, 1899:84 (reinstated).

Rhyephenes clathratus was considered a synonym of *R. goureaui* by Fairmaire (1860). According to this analysis, they are sister taxa; the latter is distinguished by the elytra lacking the humeral stripes of white scales and by characters of the female genitalia.

Redescription: Habitus (Figs. 1, 2). Body clothed with scales. Prothorax slightly globose, as wide as elytra; disc with anterior impression, and large and deep punctures. Elytra with basal area strongly impressed; with rounded tubercles; tubercles on intervals small, similar to those on striae, and partially fused to them; humeri with three short stripes of white scales. *Male*. Rostrum with tubercles at sides. Aedeagus (Figs. 15, 16) robust in lateral view; ostiolar sclerites rounded; parameres long, narrow. *Female*. Rostrum with fine punctures. Sternum 8 (Fig. 29) with plate as long as wide, and sides lacking setae; arms broad. Hemisternite (Fig. 36). Spermatheca (Fig. 43) with nodulus and ramus developed. Length 7.8-13.7 mm.

Type material: Lectotype male (here designated: [LECTOTYPE/*Rhyephenes clathratus*/R. Philippi] [*Rhyephenes clathratus*/R. Phil./det. G. Kuschel/1990] (MHNS).

Other material examined: CHILE. Without more precise data: 23 (1 AMNH, 3 BMNH, 19 MHNS). Cautín: Cautín, L. E. Peña, 1 (CWOB). Curicó: La Montaña, 8-IX-1970, A. Eglitis, 3 (MHNS). Limarí: Las Trancas, 12-I-1978, D. Jackson, 1 (MHNS). Malleco: Malleco, XII-1986, G. Pérez de Arce, 1 (MHNS). Talca: Constitución, pino insigne, 25-IX-1970, E. Holsten, 2 (MHNS); Los Cipreses, 1,000 m, 14-I-1968, L. E. Peña, 2 (MHNS).

Rhyephenes gayi (Guérin, 1830)
(Figs. 3, 4, 17, 18, 30, 37, 44, 50)

Tylodes gayi Guérin, 1830:125.

Rhyephenes cacicus Gyllenhal, 1837:315.

Rhyephenes gayi; Schoenherr, 1844:402 (=*R. cacicus*); Lacordaire, 1866:108 (reinstated).

This species occurs abundantly in central Chile. It is identified by the acute ostiolar sclerite of the aedeagus.

Redescription: Habitus (Figs. 3, 4). Body clothed with scales. Prothorax slightly globose, wider than elytra; disc lacking anterior impression, and large and deep punctures. Elytra with basal area strongly impressed; with rounded tubercles; tuber-

Table 2. Known plant associations of the species of *Rhyephenes* (plant families and species arranged alphabetically).

-Asteraceae

<i>Ambrosia</i> sp.	<i>R. gayi</i>
<i>Bahia ambrosioides</i>	<i>R. squamiger</i>
<i>Baccharis concava</i>	<i>R. squamiger</i>
<i>Baccharis rhomboidalis</i>	<i>R. squamiger</i>
<i>Baccharis</i> sp.	<i>R. gayi</i> and <i>R. humeralis</i>

-Berberidaceae

<i>Berberis rotundifolia</i>	<i>R. humeralis</i>
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-Boraginaceae

<i>Heliotropium stenophyllum</i>	<i>R. squamiger</i>
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-Bromeliaceae

<i>Puya chilensis</i>	<i>R. squamiger</i>
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-Celastraceae

<i>Maytenus boaria</i>	<i>R. maillei</i>
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-Fabaceae

<i>Adesmia microphylla</i>	<i>R. gayi</i>
<i>Anarthrophyllum</i> sp.	<i>R. gayi</i>
<i>Lupinus</i> sp.	<i>R. humeralis</i>
<i>Senna cummingii</i>	<i>R. gayi</i>
<i>Senna multiglandulosa</i>	<i>R. squamiger</i>
<i>Senna</i> sp.	<i>R. gayi</i>

-Juglandaceae

<i>Juglans regia</i>	<i>R. humeralis</i>
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-Lauraceae

<i>Persea americana</i>	<i>R. squamiger</i>
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-Nothofagaceae

<i>Nothofagus antarctica</i>	<i>R. maillei</i>
<i>N. dombeyi</i>	<i>R. humeralis</i> and <i>R. maillei</i>
<i>N. nitida</i>	<i>R. maillei</i>
<i>N. pumilio</i>	<i>R. maillei</i>
<i>Nothofagus</i> sp.	<i>R. humeralis</i> and <i>R. maillei</i>

-Pinaceae

<i>Pinus radiata</i>	<i>R. clathratus</i> , <i>R. humeralis</i> , and <i>R. maillei</i>
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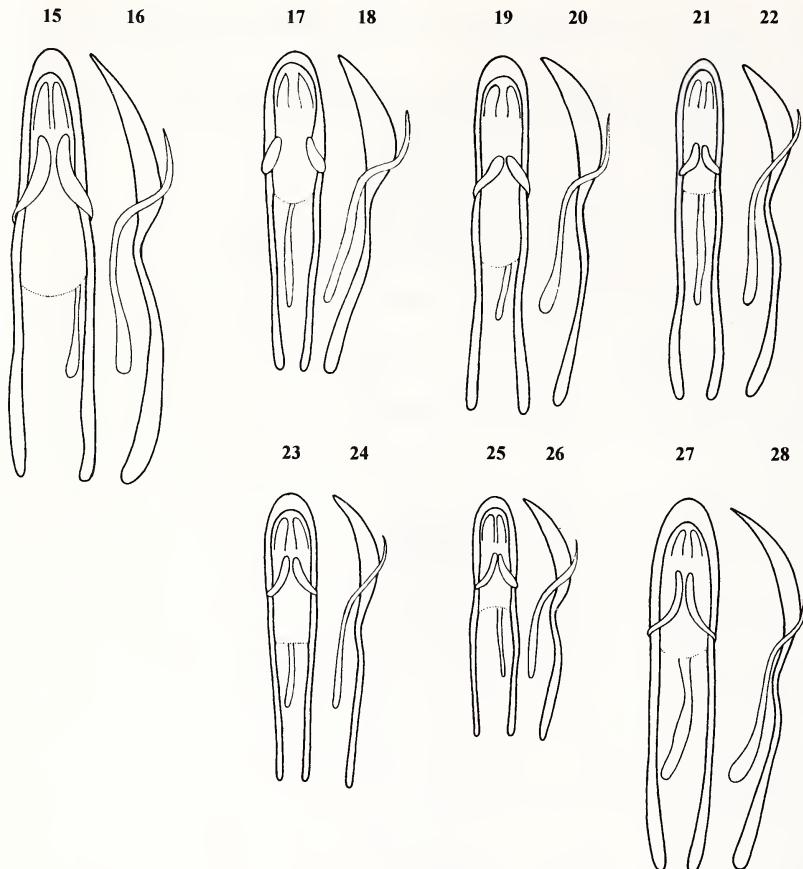
-Rosaceae

<i>Prunus persica</i>	<i>R. humeralis</i>
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<i>Quillaja saponaria</i>	<i>R. maillei</i>
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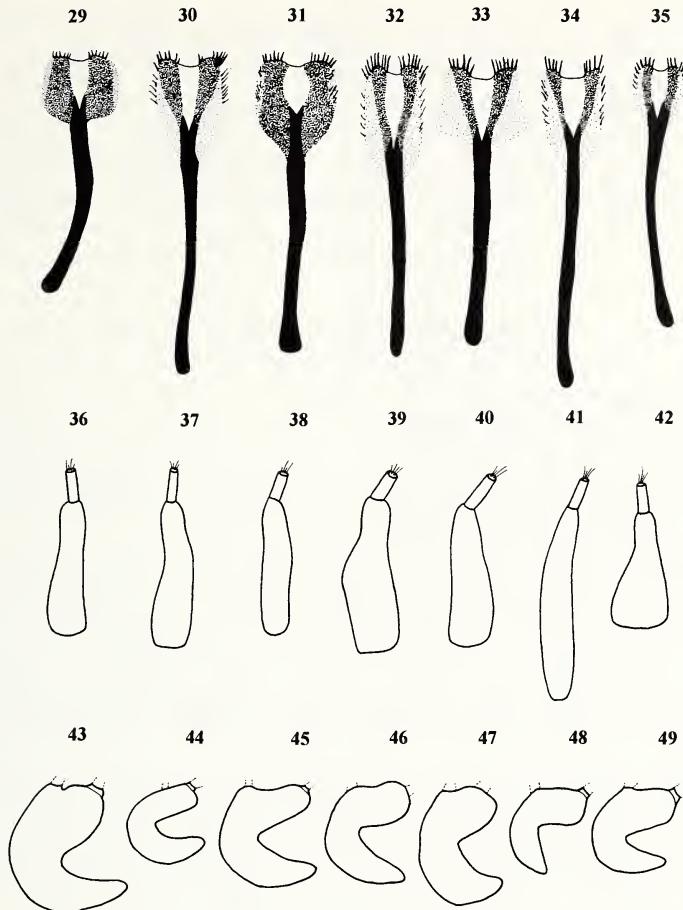
cles on intervals small, similar to those on striae, and clearly separated from them; humeri with three short stripes of white scales. *Male*. Rostrum with tubercles at sides. Aedeagus (Figs. 17, 18) robust in lateral view; ostiolar sclerites acute; parameres short, broad. *Female*. Rostrum with broad, abundant punctures. Sternum 8 (Fig. 30) with plate longer than wide, and sides with setae; arms narrow. Hemisternite (Fig. 37). Spermatheca (Fig. 44) with nodulus developed and ramus not developed. Length 7.5–15.5 mm.

Material examined: CHILE. Without more precise data: 102 (9 AMNH, 4 BMNH, 89 MHNS). Bío-Bío: Fundo María Ester, 15 km W Victoria, 14-I-1989, M. Ramírez,



Figs. 15-28. *Rhyephenes* spp., aedeagus. 15, 17, 19, 21, 23, 25, 27, dorsal view; 16, 18, 20, 22, 24, 26, 28, lateral view. 15, 16, *R. clathratus*; 17, 18, *R. gayi*; 19, 20, *R. goureaui*; 21, 22, *R. humeralis*; 23, 24, *R. lateralis*; 25, 26, *R. maillei*; 27, 28, *R. squamiger*.

2 (MACN). Cachapoal: Termas de Cauquenes, 11-I-1953, 2 (MHNS). Cauquenes: Fundo El Roble, Colhueco, E Chillán, XII-1965, 24 (AMNH); Pelluhue, 31-VII-1985, F. Silva, 5 (MHNS), 18/20-IX-1985, F. Silva, 1 (MHNS). Cautín: Cherquenco, 1954, 1 (MHNS). Chacabuco: Caleu, ex *Salix vitiminalis*, 10-III-1990, M. Elgueta, 1 (MHNS). Chiloé: Aucar, 6/15-I-1952, L. E. Peña, 2 (MHNS), 15-I-1952, L. E. Peña, 20 (MHNS). Choapa: Cerro La Silla del Gobernador, 31-X-1988. E. Maury, 1 (MLP); km 272 Panam. Norte, ex *Senna cummingii* var. *coquimbensis*, 14-V-1985, M. Elgueta, 4 (MHNS), 23-I-1986, M. Elgueta, 1 (MHNS), ex *Adesmia microphylla*, 11-III-1986, M. Elgueta, 1 (MHNS); Quilimari, 13-IX-1972, 1 (MHNS). Colchagua: Valle del Nilahue, 1-II-1915, 2 (MHNS). Concepción: Concepción, 26/28-XII-1926, F. & M. Edwards, 1 (BMNH), 20-III-1952, 1 (MHNS). Cordillera: El Alfalfa, 23-II-1967, V. Pérez, 4 (MHNS), 25-I-1968; J. Moroni, 3 (MHNS). Curicó: El Coigal, XI-1955, L. E. Peña, 5 (CWOB). Elqui: La Marquesa, 350 m, A. Aguilera coll.,



Figs. 29–49. *Rhyephenes* spp., female genitalia. 29–35, sternum 8, ventral view; 36–42, hemisternite, ventral view; 43–49, spermatheca. 29, 36, 43, *R. clathratus*; 30, 37, 44, *R. gayi*; 31, 38, 45, *R. goureaui*; 32, 39, 46, *R. humeralis*; 33, 40, 47, *R. lateralis*; 34, 41, 48, *R. maillei*; 35, 42, 49, *R. squamiger*.

VIII-1973, 4 (MHNS); Pta. Lengua de Vaca, 31-VII-1971, L. E. Peña, 1 (MHNS). Los Andes: Estero Leiva, X-1953, 5 (MHNS); Río Blanco, 30-XII-1917, 2 (MHNS). Malleco: Angol, 8-IX-1949, Cerdá, 6 (MHNS), 18-III-1953, 1 (MHNS); Curacautín, 13-III-1952, 2 (MHNS). Melipilla: Cuesta de Barriga, 7-I-1952, 1 (MHNS); El Canelo, 30-XI-1970, G. Barria, 1 (MHNS). Petorca: Quebrada del Chivato, 30-X-1988, E. Maury, 1 (MLP); Quebrada del Talanquén, 9-XII-1984, H. Niemeyer, 3 (MHNS); Quebrada El Tigre, 8-X-1988, E. Maury, 5 (MLP). Quillota: Palmas de Ocoá, 27-X-1988, E. Maury, 1 (MLP); Quebrada Escobares, 22-II-1964, J. Solervicens, 3 (MHNS); Quillota, M. Fritz, 1 (MACN). San Felipe de Aconcagua: La Ollita, Cantillana, 2000 m, 18-XII-1969, L. E. Peña, 1 (MHNS). Santiago: Farellones, 2500

m, 4-XII-1969, J. Valencia, 1 (CWOB), 26-III-1971, J. Valencia, 2 (MHNS); Oasis, II-1966, R. Pérez, 17 (MHNS); Piche Alhue, 1800 m, 18-XII-1969, L. E. Peña, 3 (MHNS); San Cristóbal, 14-XII-1966, R. Pérez, 1 (MHNS); San José de Maipo, 17-II-1970, L. Alfaro, 1 (MHNS). Talagante: Talagante, 7-IX-1970, M. Elgueta, 4 (MHNS). Talca: Vilches Alto, Cord. de Talca, I-1990, Arce, 5 (MHNS). Valdivia: La Unión, Cocule, 6-III-1952, 2 (MHNS). Valparaíso: Marga Marga, 26-IV-1983, A. Mann, 2 (MHNS), 3 (BMNH); Quillota, sobre níspero, 1 (MHNS); Quintero, "bajo Ambrosia", 29-VIII-1981, 1 (MHNS); Valparaíso, XII-1925, A. Faz, 3 (BMNH).

Rhyephenes goureaui (Gay and Solier, 1839)
(Figs. 5, 6, 19, 20, 31, 38, 45, 51)

Physothorus goureaui Gay and Solier, 1839:26.

Rhyephenes goureaui; Solier, 1839:L.

This species could be confused with *R. maillei*, the other species lacking humeral stripes in the elytra; the latter has the prothorax wider than the elytra, and the elytral tubercles on intervals more developed than those on striae.

Redescription: Habitus (Figs. 5, 6). Body clothed with scales. Prothorax slightly globose, as wide as elytra; disc with anterior impression, and large and deep punctures. Elytra with basal area strongly impressed; with rounded tubercles; tubercles on intervals small, similar to those on striae, and partially fused to them; humeri lacking stripes of white scales. *Male*. Rostrum lacking tubercles. Aedeagus (Figs. 19, 20) robust in lateral view; ostiolar sclerites rounded; parameres short, broad. *Female*. Rostrum with broad, abundant punctures. Sternum 8 (Fig. 31) with plate as long as wide, and sides with setae; arms broad. Hemisternite (Fig. 38). Spermatheca (Fig. 45) with nodulus developed and ramus not developed. Length 8.0–15.2 mm.

Material examined: ARGENTINA. Chubut: El Maitén, 28-XII-1958, A. Kovacs, 14 (AMNH). Neuquén: Catán-Lil, 25-II-1963, 1 (IADIZA); Lago Aluminé, 25-II-1964, 4 (IADIZA), 14-I-1993, G. Debandi, 1 (IADIZA); La Victoria, X-1963, 1 (IADIZA); without more precise data, 1 (MLP). CHILE. Without more precise data: 48 (1 AMNH, 2 MACN, 43 MHNS, 2 MLP). Arauco: P. N. Contulmo, 2-XI-1904, 1 (CWOB). Bío-Bío: Abanico, 19-I-1979, M. Elgueta, 1 (MHNS); San Carlos de Purén, 22-I-1973, 1 (MHNS). Cautín: Cherquenco, 1954, L. E. Peña, 3 (MHNS). Chiloé: Ancud, 10-IV-1914, 1 (AMNH), 19-XII-1926, F. & M. Edwards, 1 (BMNH); Pivehué, 16-II-1992, S. Roig-Juñent, 1 (IADIZA). Curicó: Potrero Grande, 23-X-1976, G. Arriagada, 1 (MHNS). Llanquihue: Puerto Montt, 3 (MLP). Malleco: Cordillera Lonquimay, Sierra Nevada, 2-II-1962, J. Valencia, 1 (CWOB); P. N. Nahuel Buta, 1260 m, 23-XII-1985, S. Roig-Juñent, 5 (IADIZA). Ñuble: Cabrería, 31-I-1977, F. Rodríguez, 1 (MHNS). Valdivia: Huellelhue, 24-I-1973, M. Elgueta, 1 (MHNS).

Rhyephenes humeralis (Guérin, 1830)
(Figs. 7, 8, 21, 22, 32, 39, 46, 52)

Tylodes humeralis Guérin, 1830:124.

Cryptorhynchus arachnoides Erichson, 1834:264.

Rhyecephenes incas Gyllenhal, 1837:314.

Rhyecephenes arachnodes; Gyllenhal, 1837:314 (=*R. incas*); Gemminger & Harold, 1871:2563 (=*R. humeralis*); Berg, 1899:154 (Luzón, erroneous type locality).

Physothorus boyeri Gay and Solier, 1839:27.

Rhyecephenes boyeri; Solier, 1839:L (=*R. incas*); Lacordaire, 1866:108 (reinstated); Kuschel, 1955:287 (=*R. humeralis*).

Rhyecephenes humeralis; Schoenherr, 1844:402 (=*R. incas*); Gemminger & Harold, 1871:2563 (reinstated).

Rhyecephenes inca Lacordaire, 1866:108 (error noted by Berg, 1899:154).

Rhyecephenes aequalis F. Philippi, 1899:90; Kuschel, 1993:64 (=*R. humeralis*).

This widespread species is variable in length. Its diagnostic strongly globose and protuberant prothorax can be less notable in some of the smaller specimens.

Redescription: Habitus (Figs. 7, 8). Body clothed with scales. Prothorax strongly globose, protuberant, wider than elytra; disc lacking anterior impression, and large and deep punctures. Elytra with basal area strongly impressed; with subconical tubercles; tubercles on intervals large, more developed than to those on striae, and partially fused to them; humeri with three short stripes of white scales. *Male*. Rostrum with tubercles on dorsum and sides. Aedeagus (Figs. 21, 22) robust in lateral view; ostiolar sclerites rounded; parameres short, broad. *Female*. Rostrum with fine punctures. Sternum 8 (Fig. 32) with plate longer than wide, and sides with setae; arms narrow. Hemisternite (Fig. 39). Spermatheca (Fig. 46) with nodulus and ramus not developed. Length 5.5–6.7 mm.

Type material: Lectotype male (here designated): [LECTOTYPE/*Rhyecephenes/aequalis*/F. Philippi] [=*Rhyecephenes/humeralis*/(Guérin)/ det. G. Kuschel/1990] (MHNS).

Other material examined: ARGENTINA. Without more precise data: 10 (9 BMNH, 1 MACN). Mendoza: without more precise data, C. Bruch, 1 (MLP). Neuquén: without more precise data, 1 (MLP). Río Negro: Bariloche, 16/18-XI-1926, F. & M. Edwards, 4 (BMNH). CHILE. Aisén: Puerto Cisnes, II-1961, L. E. Peña, 6 (BMNH). Arauco: Arauco, 16-XII-1985, S. Roig-Juñent, 2 (IADIZA), Baier, 5 (MACN); Temuco, I-1975, S. Roig-Juñent, 2 (IADIZA), 2 (MLP). Bío-Bío: Pemehue, at night, 1-II-1968, L. & C. W. O'Brien, 6 (CWOB), 20-I-1993, G. Debandi, 1 (IADIZA). Cachapoal: Molloa, XI-1967, 1 (CWOB); Rengo, II-1991, 4 (MLP). Cardenal Caro: Rosario, 23-II-1967, J. Numhauser, 2 (BMNH). Cautín: without more precise data, L. E. Peña, 5 (CWOB). Chacabuco: Caleu, ex *Salix vitiminalis*, 10-III-1990, M. Elgueta, 1 (MHNS). Chiloé: 25 km S Castro, V-1968, L. & C. W. O'Brien, 1 (CWOB); 9 km E Chepu, 4-II-1968, L. & C. W. O'Brien, 2 (CWOB). Choapa: 1 km S Huentalauquén, C. W. & L. O'Brien, 1 (CWOB); Los Vilos, 18-IX-1969, A. Tobar, 13 (CWOB); Palo Colorado, N Quilimarí, 27-X-1991, M. Elgueta, 2 (MHNS). Coihaique: Coihaique, 8-III-1972, A. Tobar, 2 (CWOB). Concepción: Concepción, 25-VIII-1968, J. Apablaza & C. W. O'Brien, 2 (CWOB), 21-III-1970, E. Holsten, 1 (MHNS), E. Reed, 1 (BMNH); 40 km E Concepción, 25-VIII-1968, J. Apablaza & C. W. O'Brien, 1 (CWOB). Cordillera: San José de Maipo, I-1969, R. Dulovitch, 1 (MLP). Curicó: El Coigo, cordillera Curicó, X-1964, 7 (AMNH), X-1974, 8 (AMNH); El Coiquel, XI-1955, L. E. Peña, 8 (CWOB); Quebrada Mala, 32 Km E Molina, 2-XI-1991, M. Elgueta, 1 (MHNS). Linares: 3 km SE Agua de

La Gloria, 4-XI-1967, 5 (CWOB); 13 km SE Agua de la Gloria, 4-XI-1967, L. & C. W. O'Brien, 4 (CWOB), 24-VIII-1968, L. & C. W. O'Brien, 1 (CWOB); La Pasarela, 28 km de Linares, I-1984, S. Roig-Juñent, 2 (IADIZA); La Vega, 6 km S Parral, 8-XI-1991, M. Elgueta, 1 (MHNS); Panamavida, 20-X-1968, D. Correa, 2 (CWOB); Romehual, cordillera Parral, 5/10-XI-1960, L. E. Peña, 1 (IPCN). Los Andes: Los Andes, 22-V-1979, Gordon, 2 (CWOB); Río Blanco, 25-I-1974, L. E. Peña, 2 (MHNS). Malleco: Angol, 3-IX-1927, E. Reed, 1 (AMNH), 22-IV-1946, 2 (AMNH), 12-X-1946, S. Pérez, 2 (AMNH), 20-VII-1947, W. Mason, 2 (CWOB); 6 km W Angol, at night, 2-XI-1967, 5 (CWOB); cordillera Lonquimay, 4-I-1962, 1 (CWOB); P. N. Nahuel Buta, 38 km W Angol, 4,300', 12-II-1968, L. & C. W. O'Brien, 1 (CWOB); Pichinahuel, Cordillera Nahuel Buta, 1/10-I-1959, L. E. Peña, 1 (BMNH). Ñuble: Fundo Las Cruces, Cordillera Parral, V-1958, L. E. Peña, 6 (BMNH), 12/14-XII-1960, L. E. Peña, 1 (BMNH); Las Trancas, 8 km W Termas de Chillán, 1300 m, 15-XI-1981, R. T. Schuh & N. I. Platnick, 1 (AMNH); 15 km SE Recinto, at night, 1-XI-1967, L. & C. W. O'Brien, 3 (CWOB). Petorca: Cachagua, 19-IX-1971, M. Elgueta, 1 (MHNS); 7 km NE Papudo, 8-VIII-1968, L. & C. W. O'Brien, 2 (CWOB); 13 km S Quinquimo, 12-XI-1967, L. & C. W. O'Brien, 1 (CWOB); 10 km SE Zapallar, 11-II-1967, L. & C. W. O'Brien, 15 (CWOB), 23-IX-1967, C. W. O'Brien, 1 (CWOB). Quillota: Limache, Cerro de la Cruz, 1975, S. Roig-Juñent, 1 (IADIZA); Cerro Macaya, 18-XI-1962, A. Tobar, 1 (CWOB); 19 km E Manzanar, 3-XI-1967, L. & C. W. O'Brien, 1 (CWOB). San Antonio: antes de Los Queñes, 15-I-1984, S. Roig-Juñent, 2 (IADIZA). San Felipe de Aconcagua: 15 km SE Llay-Llay, 18-IX-1967, L. & C. W. O'Brien, 3 (CWOB). Santiago: 15 km E Arrayán, at night, C. W. O'Brien, 2 (CWOB); Cerro Robles, 100', at night, 24-XII-1968, L. & C. W. O'Brien, 6 (CWOB), 6300', 24-XII-1967, L. & C. W. O'Brien, 1 (CWOB); Curacaví, 14-X-1967, L. & C. W. O'Brien, 1 (CWOB), 23-XI-1967, C. W. O'Brien, 1 (CWOB); El Canelo, 5-X-1963, J. Valencia, 2 (CWOB), 19-X-1963, J. Valencia, 4 (CWOB), 2-XI-1963, J. Valencia, 1 (CWOB), 23-III-1968, D. Correa, 2 (CWOB); El Manzano, 23-XII-1967, D. Correa, 4 (CWOB), 6-III-1968, D. Correa, 1 (CWOB), 4-X-1970, 1 (MHNS); 2 km E El Manzano, 1-II-1969, D. Correa, 1 (CWOB); El Salto, 20-XII-1967, D. Correa, 1 (CWOB); Farellones, 8,600', under dung, 25-XII-1968, L. & C. W. O'Brien, 7 (CWOB), 2500 m, 4-XII-1969, J. Valencia, 2 (CWOB); La Reina, 10/15-XI-1967, J. Barros, 1 (CWOB), 6-XII-1967, C. Reyes, 1 (CWOB); Las Condes, 6-III-1938, 4 (BMNH); Las Cruces, 3-III-1974, E. Arriagada, 10 (CWOB); 5 km S Melipilla, at night, 16-IX-1967, L. & C. W. O'Brien, 7 (CWOB); 11 km S Melipilla, 300', at night, 16-IX-1967, J. Apablaza & C. W. O'Brien, 5 (CWOB); 8 km W Padre Hurtado, 3-IX-1967, L. & C. W. O'Brien, 2 (CWOB); 15 km W Padre Hurtado, at night, 6-IX-1969, L. & C. W. O'Brien, 4 (CWOB); P. N. La Campana, 14-III-1985, C. Vivan, 1 (MHNS); Rocas Sto. Domingo, on lupine, 23-XI-1968, L. & C. W. O'Brien, 103 (CWOB); 4 km W Rungue, 6-IX-1968, L. & C. W. O'Brien, 1 (CWOB). Talagante: Naltagua, 10-II-1981, J. E. Barriga, 7 (MLP). Talca: Altos de Vilches, 30-X-1969, J. Rozen & L. E. Peña, 2 (AMNH), 27-XII-1969, J. Valencia, 2 (CWOB), 10-X-1970, A. Tobar, 4 (CWOB), 13-X-1970, A. Tobar, 1 (CWOB), 1280 m, 10/11-XI-1971, J. Valencia, 3 (CWOB), 1200 m, 5/7-X-1972, Coscarón, Peña & Wygodzinsky, 7 (AMNH); Constitución, 22-V-1969, E. Holsten, 3 (AMNH), 13-V-1970, E. Holsten, 2 (MHNS); 7 km W

Molina, I-1968, C. W. O'Brien, 10 (CWOB), 20-I-1968, D. Correa, 1 (CWOB), 1-II-1968, D. Correa, 30 (CWOB), 25-II-1968, on *Salix* trunk, D. Correa, 6 (CWOB), 26-XII-1968, D. Correa, 6 (CWOB); Valle Empedrado, 6-X-1970, E. Holsten, 1 (AMNH); Vilches Alto, 14-XII-1973, 2 (MHNS), 21-XII-1973, 1 (MHNS). Valdivia: Valdivia, D. Sharp, 2 (BMNH). Valparaíso: Algarrobo, on *Baccharis*, 24-XI-1968, L. & C. W. O'Brien, 1 (CWOB), IX-1969, 1 (MHNS); 15 km NW Casablanca, 1000', at night, 9-IX-1967, L. & C. W. O'Brien, 1 (CWOB); El Bato, E Illapel, 25-X-1991, M. Elgueta, 4 (MHNS); El Bato, a farm east of Illapel, 19-X-1966, 1 (AMNH); La Canela, 29-X-1991, M. Elgueta, 1 (MHNS); Valparaíso, 1903, Crawford expedition, 1 (BMNH), Walker, 1 (BMNH), E. Reed, 2 (AMNH), 3 (BMNH); 19 km SE Villa Alemana, 1,000', at night, IX-1967, L. & C. W. O'Brien, 3 (CWOB); Viña del Mar, 17-III-1938, 1 (BMNH); 13 km S Viña del Mar, 650', 3-IX-1967, J. Barros, 1 (CWOB). Without more precise data: Araucanía, R. M. Middleton, 13 (BMNH); A. Tobar, 6 (CWOB); Reed, 3 (BMNH); C. Darwin, 1 (BMNH); 116 (2 AMNH, 19 BMNH, 21 MACN, 70 MHNS, 4 MLP).

Rhyephenes lateralis (Guérin, 1830)
(Figs. 9, 10, 23, 24, 33, 40, 47, 52)

Tyloides lateralis Guérin, 1830:126.

Rhyephenes lateralis; Schoenherr, 1844:404.

This rather scarce species is easily recognized by the two short and one longer elytral humeral stripes.

Redescription: Habitus (Figs. 9, 10). Body clothed with scales. Prothorax slightly globose, as wide as elytra, wider than elytra; disc lacking anterior impression, and large and deep punctures. Elytra with basal area slightly impressed; with rounded tubercles; tubercles on intervals small, similar to those on striae, and partially fused to them; humeri with three stripes of white scales, two short and one longer. *Male*. Rostrum with tubercles on dorsum and sides. Aedeagus (Figs. 23, 24) slender in lateral view; ostiolar sclerites rounded; parameres long, narrow. *Female*. Rostrum with fine, sparse punctures. Sternum 8 (Fig. 33) with plate as long as wide, and sides lacking setae; arms narrow. Hemisternite (Fig. 40). Spermatheca (Fig. 47) with nodulus and ramus not developed. Length 9.1–13.2 mm.

Material examined: CHILE. Without more precise data: 3 (MHNS). Ñuble: Cobquecura, 13-I-1967, P. Ramírez, 1 (CWOB); Quirihue, I-1979, C. Vidal, 3 (MHNS). Talca: Alto Vilches, 14-III-1971, L. E. Peña, 2 (MHNS), 2-XI-1973, 1 (MHNS), 21-XII-1973, 2 (MHNS); Constitución: 27-II-1948, 2 (MHNS), 25-IX-1970, E. Holsten, 5 (AMNH). Valdivia: Panguipulli, 14-II-1966, 1 (MHNS).

Rhyephenes maillei (Gay and Solier, 1839)
(Figs. 11, 12, 25, 26, 34, 41, 48, 53)

Physothorus maillei Gay and Solier, 1839:24.

Physothorus laevirostris Gay and Solier, 1839:25 (probably synonym of *P. maillei*).

Rhyephenes maillei; Solier, 1839:L; Angulo, 1970:313 (larva).

Rhyephenes laevirostris; Solier, 1839:L; Lacordaire, 1866:108 (not synonym of *R. maillei*); Berg, 1899:153 (=*R. maillei*); F. Philippi, 1899:82 (=*R. maillei*); Hustache, 1936:235 (reinstated); Morrone, 1994:95 (=*R. maillei*).

Rhyephenes immaculatus Blanchard, 1853:251, pl. 14, Fig. 16 (=*R. laevirostris*); Berg, 1899:153 (=*R. maillei*); Hustache, 1936:235 (=*R. laevirostris*); Morrone, 1994:95 (=*R. maillei*).

Rhyephenes sulcatus F. Philippi, 1899:86; Morrone, 1994:95 (=*R. maillei*).

Rhyephenes philippii Fiedler, 1942:279; Kuschel, 1950:18 (=*R. sulcatus*); Morrone, 1994:95 (=*R. maillei*).

This widespread species is variable in length. The names *R. laevirostris*, *R. immaculatus*, *R. sulcatus*, and *R. philippii* have been applied to variants of this species.

Redescription: Habitus (Figs. 11, 12). Body clothed with scales. Prothorax slightly globose, wider than elytra; disc lacking anterior impression, and large and deep punctures. Elytra with basal area strongly impressed; with subconical tubercles; tubercles on intervals large, more developed than to those on striae; humeri lacking stripes of white scales. *Male*. Rostrum with tubercles on dorsum and sides. Aedeagus (Figs. 25, 26) slender in lateral view; ostiolar sclerites rounded; parameres long, narrow. *Female*. Rostrum with fine punctures. Sternum 8 (Fig. 34) with plate longer than wide, and sides with setae; arms narrow. Hemisternite (Fig. 41). Spermatheca (Fig. 48) with nodulus developed and ramus not developed. Length 6.3–15.4 mm.

Type material: Lectotype male (here designated): [LECTOTYPE/*Rhyephenes sulcatus*/F. Philippi] [*Rhyephenes/maillei*/variant Gay & Solier/det. G. Kuschel/1990] (MHNS).

Other material examined: ARGENTINA. Chubut: El Hoyo, 5-V-1959, A. Kovacs, 4 (BMNH), 18-X-1960, A. Kovacs, 1 (BMNH); Lago Verde, 560 m, 4-II-1983, M. & P. Gentili, 1 (IPCN); Río Correntoso, 1 (MACN); without more precise data, 2 (MLP). Mendoza: without more precise data, 1 (AMNH). Neuquén: Aluminé, 25-II-1964, 1 (IADIZA), II-1977, O. de Ferraris, 3 (IPCN), 8-I-1991, G. Debandi, 2 (IADIZA); Chapelco, 7-III-1964, 2 (IADIZA), 1,700 m, 15-III-1964, M. Gentili, 3 (IPCN), 1750 m, XII-1965, M. Gentili, 1 (IPCN), 1400 m, 30-III-1982, M. Gentili, 1 (IPCN); Copahue, 1,925 m, 18-XII-1963, M. Gentili, 1 (IPCN), 2000 m, 3-II-1987, M. Gentili, 1 (IPCN); Huiliches, 13-XII-1991, G. Debandi, 1 (IADIZA); Kilca, 4-I-1972, 1 (IPCN); Lago Hermoso, XII-1949, M. Barrera, 3 (MACN); Lago Lácar, 23 km W San Martín de los Andes, 25-I-1972, L. Herman, 1 (CWOB); Lago Lácar, Nonthue, 640 m, 17-XI-1992, M. Gentili, 2 (IPCN); Lago Queñi, 875 m, M. Gentili, 1 (IPCN); Lago Tromen, 1,000 m, 15-XII-1962, M. Gentili, 1 (IPCN); Pucará, 1949, S. Schajovskoi, 2 (MACN), 23-XI-1957, M. Gentili, 1 (IPCN), 21-XII-1965, L. Grossi, 3 (MLP), 6-II-1972, L. Herman, 1 (CWOB); Río Aluminé, 16-XII-1965, M. Gentili, 1 (IPCN); road between Pucará and Lago Venado, 24/25-I-1972, L. Herman, 2 (CWOB); San Martín de los Andes, 4-III-1942, M. Birabén, 1 (MLP), 17-III-1964, 1 (IADIZA), 9-XII-1976, O. de Ferraris, 1 (IPCN), 1000 m, 2-XI-1986, M. & P. Gentili, 1 (IPCN), 640 m, M. Gentili, 5 (IPCN), 10-XI-1991, G. Debandi, 2 (IADIZA); valle del Río Limay, II-1947, J. Navas, 3 (MLP); without more precise data, 28 (24 MACN, 4 MLP). Río Negro: Bariloche, 25/28-X-1926, F. & M. Edwards, 2 (BMNH), II-1938, Birabén & Scott, 1 (MLP), I-1942, Rossi, 3 (MACN), 26-XI-1963, A. Kovacs, 1 (AMNH), Richter, 5 (MLP); El Bolsón, 20-IX-1956, A. Kovacs, 2 (BMNH), 12-VII-1958, A. Kovacs, 1 (BMNH), 25-XII-1958, A. Kovacs, 16 (BMNH), 18-XII-1959, A. Kovacs, 1 (BMNH), 22-XII-1959, A. Kovacs, 1 (BMNH), 29-XI-1959, A. Kovacs, 1 (BMNH), 5-X-1960, A. Kovacs, 6 (BMNH), 18-I-1961,

1 (BMNH), 10-VIII-1961, A. Kovacs, 1 (BMNH), 20-X-1961, 2 (BMNH), 1-XII-1961, A. Kovacs, 4 (BMNH), 9-XII-1962, A. Kovacs, 1 (BMNH), 22-XII-1962, A. Kovacs, 1 (BMNH), 16-I-1963, A. Kovacs, 1 (BMNH), 19-I-1965, A. Kovacs, 11 (AMNH); isla Victoria, 15-XI-1969, 1 (MACN), 2-XII-1969, 1 (MACN); isla Victoria, IV-1958, 2 (IADIZA); Ñorquinco, 10-II-1964, A. Kovacs, 1 (AMNH); P. N. Los Alerces, S. Roig-Juñent, 1 (IADIZA); Pto. Radal, isla Victoria, 1 (MACN). Santa Cruz: Lago Argentino, 1959, P. W. James, 3 (BMNH), 16/27-II-1974, C. Bordón, 1 (CWOB); valle del Lago Blanco, 1903, 2 (BMNH); Valle Túnel, 3 (MLP). Tierra del Fuego: Without more precise data, 1900, C. Bruch, 6 (MACN). Without more precise data: Patagonia, 69 (MLP); 1935, 5 (BMNH), I-1972, L. Herman, 1 (CWOB). CHILE. Without more precise data: 50 (5 AMNH, 12 BMNH, 5 MACN, 26 MHNS, 2 MLP). Aisén: Lago J. A. Ríos, Taitao, 8-XII-1956, C. Riffart, 1 (MHNS); Pto. Aisén, 12-III-1943, R. Maldonado, 39 (MLP), 21-I-1968, L. & C. W. O'Brien, 1 (CWOB); Taitao, Base no. 5, 5-XII-1956, C. Bittart, 2 (MHNS); without more precise data, II-1934, 1 (MHNS). Arauco: Arauco, 24-III-1969, G. Billings, 7 (MHNS); Cañete, 24-III-1969, R. Billings, 6 (MHNS), pino insigne, 12-V-1969, D. Edelman, 1 (AMNH); Caramávida, 31-XII-1957, L. E. Peña, 1 (MHNS), 18-X-1969, G. Barría, 1 (MHNS), 16-XII-1985, S. Roig-Juñent, 2 (IADIZA); Curanilahue, 1-IV-1970, D. Edelman, 1 (AMNH); isla Mocha, XI-1982, Bullock, 3 (MHNS); P. N. Contulmo, 19-X-1969, G. Barría, 1 (MHNS), 15-XII-1985, S. Roig-Juñent, 5 (IADIZA); without more precise data, Baier, 1 (MACN). Bío-Bío: Mulchén, 16-II-1969, F. Rojas, 1 (MHNS). Capitán Pratt: Dos Lagunas, night, 13-I-1968, C. W. & L. O'Brien, 1 (CWOB), under wood, 14-I-1968, C. W. & L. O'Brien, 5 (CWOB). Cautín: río Cautín, L. E. Peña, 2 (CWOB); 50 km S Temuco, 11-XII-1984, S. Roig-Juñent, 1 (IADIZA); Villarrica, 3-II-1968, B. Heineman, 1 (AMNH). Chiloé: Aucar, 18-I-1952, L. E. Peña, 7 (MHNS), 6-V-1952, L. E. Peña, 2 (MHNS); 9 km N Castro, 7-II-1968, L. & C. W. O'Brien, 1 (CWOB); 14 km E Chepu, 4-II-1968, L. & C. W. O'Brien, 3 (CWOB); Dalcahue, 18-I-1962, R. Usinger, 1 (CWOB); 20 km N Pichue, on [*Nothofagus*] nitida, 16-XI-1992, S. Roig-Juñent, 1 (IADIZA); 6 km N Quellón, 6-II-1968, L. & C. W. O'Brien, 1 (CWOB); 21 km N Quellón, 6-II-1968, L. & C. W. O'Brien, 1 (CWOB); without more precise data, C. Darwin, 1 (BMNH). Coihaique: Coihaique, I-1934, 9 (MHNS); 17 km SE Coihaique, 20-I-1968, L. & C. W. O'Brien, 4 (CWOB); 56 km SE Coihaique, 20-I-1968, L. & C. W. O'Brien, 1 (CWOB); 64 km SE Coihaique, 20-I-1968, L. & C. W. O'Brien, 12 (CWOB); 7 km W Coihaique, at night, 21-I-1968, L. & C. W. O'Brien, 1 (CWOB); 33 km W Coihaique, 23-I-1968, L. & C. W. O'Brien, 4 (CWOB). Coichagua: 10 km S San Fernando, 12-XI-1967, J. Undurraga, 1 (CWOB). Concepción: Concepción, 21-III-1969, E. Holstem, 1 (AMNH). Llanquihue: El Manso, 22-I-1959, A. Kovacs, 13 (BMNH), 1-IV-1960, A. Kovacs, 52 (BMNH); Frutillar Bajo, II-1965, G. Silva, 2 (MHNS); Pto. Varas, M. Richter, 2 (MACN). Magallanes: Cabo Negro, 28-XII-1975, Pérez, 6 (MHNS); cordillera Lonquimay, Sierra Nevada, 2-I-1962, J. Valencia, 1 (CWOB), 4-I-1962, 1 (CWOB); Dawson island, 1916, 1 (BMNH); El Canelo, 15-III-1969, L. E. Peña, 3 (MHNS); Estancia Canelo, 17-I-1968, L. & C. W. O'Brien, 12 (CWOB); 26 km E Estancia Canelo, on and under *Nothofagus*, 17-I-1968, L. & C. W. O'Brien, 37 (CWOB); isla Navarino, 1935, J. Bird, 1 (AMNH); Laguna Amarga, 10-I-1968, C. W. & L. O'Brien, 1 (CWOB); Magallanes, 2-IV-1953, T. Cekalovic, 1 (MHNS); Punta Arenas, Walker, 2 (BMNH); 3 km W Punta Arenas, at night, 16-I-1968, L. &

C. W. O'Brien, 1 (CWOB). Malleco: Icalma, II-1989, 1 (MHNS); Pailahueque, X-1962, M. Fritz, 3 (MACN); P. N. Nahuel Buta, 1200 m, 23-XII-1985, S. Roig-Juñent, 3 (IADIZA), 20-I-1993, G. Debandi, 2 (IADIZA), 21-I-1993, G. Debandi, 1 (IADIZA); P. N. Tolhuaca, 13-I-1993, G. Debandi, 2 (IADIZA); Pichinahuel, Nahuelbuta, 1200 m, 14-II-1956, L. E. Peña, 1 (CWOB). Osorno: Antillanca, 3,700', *Nothofagus pumilio*, 10-II-1968, C. W. O'Brien, 1 (CWOB); 18 km NW Antillanca, 1,800', at night, 9-II-1968, L. & C. W. O'Brien, 3 (CWOB); Bahía Mansa, 26-IX-1968, C. Calderón, 3 (MHNS); Osorno, I-1975, S. Roig-Juñent, 9 (IADIZA), XII-1984, S. Roig-Juñent, 1 (MACN); 51 km E Osorno, Lago Puyehue, 800', 9-II-1968, L. & C. W. O'Brien, 8 (CWOB); P. N. Puyehue, II-1992, S. Roig-Juñent, 1 (IADIZA); P. N. Puyehue, Agua Caliente, XII-1984, S. Roig-Juñent, 1 (IADIZA); Pucatrihue, coastal town, 3/21-III-1967, 2 (AMNH); Purranque, IX-1985, J. E. Barriga, 1 (MHNS). Santiago: Lago Arrayán, 20-XII-1968, C. Barrientos, 1 (CWOB). Talagante: Maipo, 7-XI-1968, J. Marshall, 1 (CWOB). Talca: Alto de Vilches, 10-X-1970, A. Tobar, 1 (CWOB). Tierra del Fuego: forest S of Bahía Inútil (Useless Bay), XII-1904, R. Crawshay, 1 (BMNH); río McKlelland, XI/XII-1904, R. Crawshay, 1 (BMNH). Ultima Esperanza: Cancha Carreras, 24-I-1988, J. J. Morrone, 1 (MLP); Cerro Guido, *Nothofagus*, 10-I-1968, C. W. & L. O'Brien, 4 (CWOB); Cerro León, 19-I-1969, V. Pérez, 1 (MHNS); P. N. Torres del Paine, 25-I-1988, J. J. Morrone, 1 (MLP). Valdivia: Lanco, I-1980, 4 (MLP); La Unión, 10-III-1952, 1 (MHNS); Pan-guipuli, 14-II-1966, G. Ortega, 20 (CWOB), II-1984, L. E. Peña, 1 (CWOB); Pirehueico, 1-XII-1985, S. Roig-Juñent, 1 (IADIZA); Valdivia, 30-XII-1968, D. Correa, 1 (CWOB), 31-XII-1968, night, D. Correa, 9 (CWOB), 3-I-1969, D. Correa, 56 (CWOB), 29-XII-1986, E. Krammer, 2 (MHNS); 13 km SE Valdivia, 3-II-1968, L. & C. W. O'Brien, 1 (CWOB); 18 km N Valdivia, 4-I-1969, D. Correa, 11 (CWOB).

Rhyephenes squamiger F. Philippi, 1899, reinstated name
(Figs. 13, 14, 27, 28, 35, 42, 49, 53)

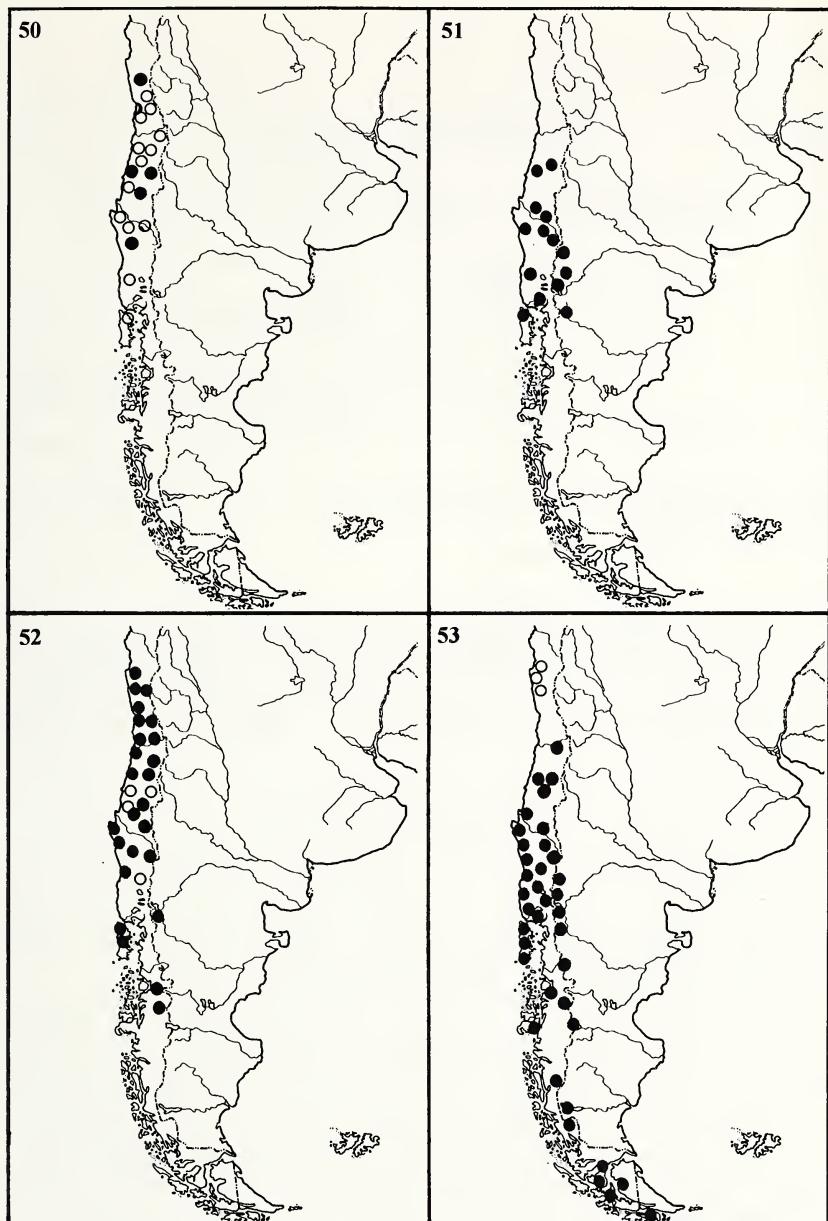
Rhyephenes squamiger F. Philippi, 1899:88; Kuschel, 1993:63 (=*R. gayi*).

This scarce species, easily recognized by its body clothed with scales, has a relictual distribution in central Chile. Kuschel (1993) incorrectly considers this species as a geographical race of *R. gayi*; however, the cladistic analysis indicates that they are two different (and unrelated) species.

Redescription: Habitus (Figs. 13, 14). Body lacking scales. Prothorax slightly globose, wider than elytra; disc lacking anterior impression, and small and shallow punctures. Elytra with basal area slightly impressed; with subconical tubercles; tubercles on intervals small, similar to those on striae, and partially fused to them; humeri with two short stripes of white scales. *Male*. Rostrum lacking tubercles. Aedeagus (Figs. 27, 28) slender in lateral view; ostiolar sclerites rounded; parameres long, narrow. *Female*. Rostrum with broad, abundant punctures. Sternum 8 (Fig. 35) with plate as long as wide, and sides with setae; arms narrow. Hemisternite (Fig. 42). Spermatheca (Fig. 49) with nodulus and ramus developed. Length 9.1–10.9 mm.

Type material: Lectotype male (here designated): [883/a] [*squamiger*] [= *Rhyephenes/gayi*/(Guérin)/det. G. Kuschel/1990] [LECTOTYPE/*Rhyephenes/squamiger*/F. Philippi] (MHNS).

Other material examined: CHILE. Choapa: Los Vilos, “ex *Senna cummingi*”,



Figs. 50–53. *Rhyephenes* spp., geographical distribution. 50, *R. clathratus* (black circles) and *R. gayi* (open circles); 51, *R. goureaui*; 52, *R. humeralis* (black circles) and *R. lateralis* (open circles); 53, *R. maillei* (black circles) and *R. squamiger* (open circles).

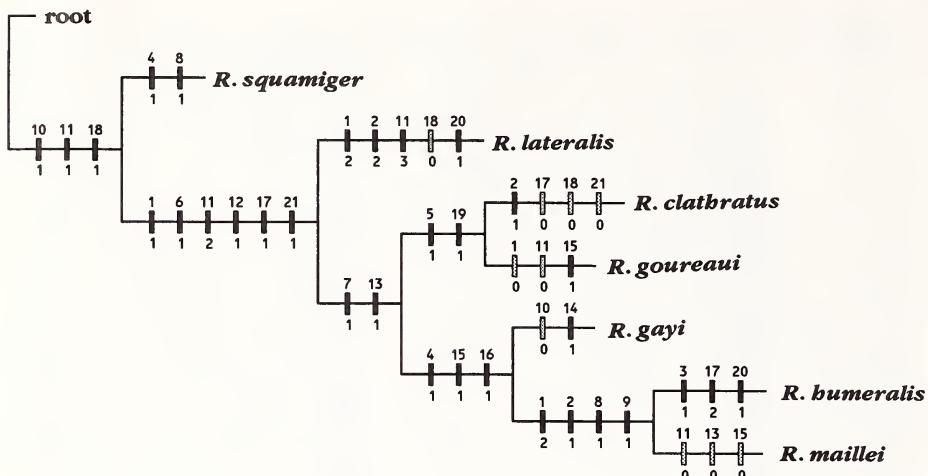


Fig. 54. Cladogram of the species of *Rhyephenes*. Black squares = synapomorphies; dotted squares = homoplasies.

II-1989, Barriga, 1 (MHNS); Nague, Los Vilos, 17-IX-1971, L. E. Peña, 1 (MHNS); km 27 Panamericana Norte, ex *Bahia ambrosioides*, 24-IX-1985, 1 (MHNS). Limarí: Fray Jorge, at night, 3-X-1967, L. & C. W. O'Brien, 1 (CWOB), 20-VI-1968, L. & C. W. O'Brien, 1 (CWOB), 21-VI-1968, L. & C. W. O'Brien, 2 (CWOB), 7-X-1975, C. Vidal, 1 (MHNS).

CLADISTICS AND BIOGEOGRAPHY

The analysis of the data matrix (Table 1) produced four cladograms ($CI = 0.55$, $RI = 0.51$, length 43 steps) under equal weights, which after successive weighting resulted in one cladogram ($CI = 0.82$, $RI = 0.85$, length 111 steps). In the cladogram (Fig. 54), the following phylogenetic sequence results: (*R. squamiger*, (*R. lateralis*, ((*R. clathratus*, *R. goureaui*), (*R. gayi*, (*R. humeralis*, *R. maillei*))))).

When the cladogram is compared with the distributional maps of the species of *Rhyephenes* (Figs. 50-53), basal species (*R. squamiger* and *R. lateralis*) appear to be endemic to central Chile, whereas the most apomorphic species are widespread in central and southern Chile (*R. gayi*) or extend also to southern Argentina (*R. humeralis* and *R. maillei*). Whether this pattern reflects a series of vicariant or dispersal events cannot be deduced directly from the cladogram sequence. Future comparisons with other plant and animal taxa distributed in the same areas will help to solve this problem.

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